

CLAIMS

1. A method for external localization of anomalies located in an immersed hollow structure (PL), which anomalies were detected beforehand  
5 by a device ( $R_{TE}$ ) moving inside said immersed hollow structure, and positioned by counting from an origin, marks located at regular intervals accessible from the inside and outside of said immersed hollow structure (PL),

characterized in that it consists of:

- 10 a. defining by counting, from the same aforesaid origin, a mark accessible on the outside of the immersed hollow structure,
- b. positioning a transponder module (T) on the aforesaid mark,
- c. identifying the transponder module (T) by an identification code,
- 15 d. determining the number of marks separating said anomalies and said identified transponder module (T).

2. The method according to claim 1,  
characterized in that the immersed hollow structure (PL) is a submarine  
20 pipeline.

3. The method according to claim 1,  
characterized in that the marks located at regular intervals accessible inside and outside of said immersed hollow structure (PL) are welds connecting  
25 metal sections forming the envelope of the hollow structure (PL).

4. The method according to claim 1,  
characterized in that a transponder (T) is located near one aforesaid weld.

5. The method according to claim 1,  
characterized in that the identification of the transponder module by an  
identification code is carried out via a reading and writing device ( $D_{BM}$ ).

5 6. The method according to claim 5,  
characterized in that the identification of the transponder module by an  
identification code is carried out at a frequency between 1 kHz and 150 kHz,  
preferably at 125 kHz and 134.2 kHz and at a power between 1 W and 100  
W, preferably between 4 W and 20 W.

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7. The method according to claim 5,  
characterized in that the reading and writing device ( $D_{BM}$ ) comprises storage  
means and remote transmission means.

15 8. A device for applying the method according to claim 1, for  
external localization of anomalies located in an immersed hollow structure  
(PL), which anomalies were detected beforehand by a device ( $R_{TE}$ ) moving  
inside said immersed hollow structure (PL), and positioned by counting  
from an origin, marks located at regular intervals, accessible from the inside  
20 and outside of said immersed hollow structure (PL),  
characterized in that it comprises:

- a. means for defining by counting, from the same aforesaid  
origin, a mark accessible on the outside of the immersed  
hollow structure (PL),
- 25 b. means for positioning a transponder module (T) on the  
aforesaid mark,
- c. means for identifying the transponder module (T) by an  
identification code,
- d. means for determining the number of marks separating said

anomalies and said identified transponder module (T).

9. The device according to claim 8,  
characterized in that the means for positioning the transponder module on  
5 the aforesaid mark comprise an open collar (2) made in a flexible material  
unaffected by seawater.

10. The device according to claim 8,  
characterized in that the means for positioning the transponder module on  
10 the aforesaid mark, comprise a strap made in a flexible material unaffected  
by seawater.

11. The device according to claim 8,  
characterized in that the means for positioning the transponder module on  
15 the aforesaid mark consist in a bond unaffected by seawater.

12. The device according to claim 8,  
characterized in that the means for positioning the transponder module on  
the aforesaid mark comprise a sealing member (2) in the concrete or the  
20 coating resin of said immersed hollow structure.

13. The device according to claim 8,  
characterized in that the means for identifying the transponder module by an  
identification code comprise a reading and writing device ( $D_{BM}$ ).  
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14. The device according to claim 11,  
characterized in that the aforesaid reading and writing device ( $D_{BM}$ ) may  
write initial data in the transponder module before immersion.

15. The device according to claim 8,  
characterized in that the immersed structure (PL) is a flexible or rigid  
submarine pipeline, or a submarine cable.